



THE UNITED STATES PATENT AND TRADEMARK OFFICE

#19
3/12/02
SC

Docket No.: 122.1290

In re the Application of:

Keisuke KUBOMURA et al.

Serial No. 08/938,706

Group Art Unit: 2176

Filed: September 26, 1997

Examiner: C. Paula

For: INFORMATION PROCESSING APPARATUS AND PROGRAM STORAGE MEDIUM

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Technology Center 2100

WCH
3/13/02
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In a Notice of Appeal filed November 30, 2001, the applicants appealed the Examiner's July 30, 2001, Office Action finally rejecting claims 1-36. Therefore, Appellant's Brief was due January 30, 2002. A one-month extension of time has been included, thereby extending the time to reply to February 28, 2002. Appellant's Brief together with the requisite fee set forth in 37 CFR § 1.17 is submitted herewith.

I. REAL PARTY IN INTEREST (37 CFR § 1.192(C)(1))

The real party in interest is Fujitsu Limited, the assignee of the subject application.

II. RELATED APPEALS AND INTERFERENCES (37 CFR § 1.192(C)(2))

The applicant and the undersigned representative are not aware of any other appeals or interferences that will directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

III. STATUS OF CLAIMS (37 CFR § 1.192(C)(3))

Appealed claims 1-36 have been rejected. These are the only pending claims in the subject application.

IV. STATUS OF AMENDMENTS (37 CFR § 1.192(C)(4))

Appellant's Amendment under 37 CFR § 1.116 filed May 11, 2001 was considered by the Examiner as indicated by the Office Action mailed July 30, 2001. This Amendment did not

overcome the prior art rejections. The claims have not been further amended.

V. SUMMARY OF INVENTION (37 CFR § 1.192(C)(5))

Referring to Figs. 1, 4, 5A, 9A-9C, 14A, 14B, 16A-16E and 18A-18C, the features of the present invention as set forth in claims 1, 3, 4, 6, 7, 9, and 10 are summarized below.

The present invention relates to solving problems that can occur when viewing newly opened windows that are displayed within an enlarged or magnified view. With the prior art, newly opened windows in a magnified view had problems; characters in the new window were incompletely displayed, the new window was displayed with a size too large or too small in relation to the present magnified view ("first magnification rate"), the pre-window view was not in view after the new window closed, and areas other than the new window could be scrolled into view.

The present invention may be understood by referring to some of these problems. The "Description of the Related Art" found in the present specification discusses the technology of screen enlargement or magnification, and past problems with opening windows in a screen magnification mode.

The present specification's "Description of the Related Art" discusses that some visually impaired people cannot easily see characters and pictures on a display screen. The prior art has addressed this visibility problem by enlarging the display (i.e. providing a magnified screen view). These prior art "dumb" screen magnifiers simply took whatever output (e.g. newly opening window) was destined for screen display and magnified it according to a current magnification rate. However, not all newly opening windows have the same visual properties. They may have different base font sizes or different geometries. These differences are amplified when the windows are displayed in enlarged form, causing their visual appearance to deviate from the needs of the user. For example, two different potential new windows might have an unenlarged text size of 1 and 10, respectively. The user may have previously set the magnifier's magnification rate to 2; so current text with size 2.5 would be displayed with a magnified size of 5. When the size-1 window is newly opened, it will be enlarged with text size $2 \times 1 = 2$, which is smaller than the user's desired or previous text size of 5. When the size-10 window is opened and enlarged, it will be displayed with text size 20, which is larger than the user's previous or desired text size of 5. A similar problem can occur with window size.

When opening a new window, prior art "dumb" screen magnifiers/enlargers did not self-adjust their magnification rate to accommodate a newly opened window to the visual

requirements of the user, as expressed for example by a specified magnification rate or character size. As in the example above, when a new window opened, a text or character sizing problem would occur; the new window would not have the same displayed character or text size relative to what was being displayed in the magnified/enlarged view before the new window opened (see Figs. 15A and 15B). Similarly, a newly opened, magnified, and displayed window could have an undesirable window size or dimension (see Fig. 5A). Furthermore, a scroll-restoration problem could occur when a user "panned" the magnified view to see parts of the new window that were beyond the edge of the screen or view (see Figs. 18A-18C). After the user closed the newly opened window, the user's view would be away from their pre-window view and would have to manually pan back to the initial pre-window view. Furthermore, when the newly opened window was partially out of view (as for example because of enlargement), the user would want to scroll undisplayed parts of the new window into view without seeing other parts or areas of the enlarged view that are adjacent on to or surrounding the new window. However, with the prior art, a scrolling problem would occur when the user would unintentionally pan or scroll the magnified view/screen beyond the edge of the newly opened and magnified window, thus revealing enlarged areas that the user did not care to see (see Figs. 16A-16E).

The sizing problem can be further understood with reference to Figs. 14A and 14B. The window in Fig. 14A represents an initial magnified screen view, with input being directed to the window at the location of the underscore/cursor. A user action causes a new window to open. Fig. 14B shows the prior art magnified display of the new window, which covers the view of Fig. 14A. In the example of Fig. 14B, the new window is seeking input; "Is this OK?," but the user can't read it. With the sizing problem, the prior art displayed a new window with the same magnification rate the screen magnifier/enlarger was using before it displayed the window, causing the window to be magnified to the point where its text could not be recognized (the "K" and bottom half of "Is this O" are located in an undisplayed part of the screen magnifier). The new window in Fig. 14B, as displayed in enlarged form, cannot be read or understood.

Similarly, a sizing problem would occur with the prior art when a newly opened window was magnified and displayed by the screen magnifier such that the magnified characters in the new window were smaller than magnified characters in the first window. For example, in Figs. 15A and 15B, the window in Fig. 15A is the focus window displayed by a screen magnifier before a new window opens. A user action causes a new window to open, as shown in Fig. 15B (a new window asking a question). The font in Fig. 15B, even though displayed by the screen magnifier, is smaller than the font of the window in view before the new window opened, whose font size may have been specified, via the magnification rate. Thus, the visually impaired user

may not be able to read the newly opened window.

The present invention can solve the sizing problems by adjusting ("determining") the magnification ratio of the screen magnifier such that the newly opened window is either fully displayed in the screen magnifier or enlarged to have the same font size as the first window. Claims 1, 3, 4, 6 and 7 recite different ways of determining the second (adjusted) magnification rate.

As recited in claim 1, the adjusted magnification rate ("second magnification rate") can be adjusted ("determined") based on ("from") "a size of a first intended pre-enlarged area as displayed on the screen, and a size assigned to a second intended after-enlarged area to be enlarged on the screen". This may also be thought of as adjusting the magnification rate based on the effect of its would-be enlargement (e.g. on window or character size) of a newly opening window ("area"), relative to its pre-enlargement size.

As recited in claim 3, the second magnification rate may be "determined" or calculated "from a size of said first intended area as displayed on the screen and from a size of the whole display screen". In other words, the magnification rate is adjusted based in part on the size of the display screen (e.g., 16 inches, 14 inches, 21 inches, etc.).

As recited in claim 4, the determining may be based on (or "from") "a size of the character in an area surrounding said first intended area on said display screen, and a size of the character in an area surrounding said first intended area on said display screen". This may also be understood as adjusting the magnification rate based on the unenlarged size of a character in the new window, and its size as it would be displayed with the pre-adjusted ("first") magnification rate (i.e. in an area surrounding the first intended area).

As recited in claim 6, the determining may be such that "the size of the character displayed in said second intended area in an enlarged form in which the characters having been in an area surrounding said first intended area is equal to the size of the character displayed in the second intended area in an enlarged form in which the characters having been in said first intended area according to said second magnification rate". This may be thought of as adjusting the magnification rate so that newly opened text in the newly opened area is magnified and displayed (with the second rate) to have the same character size of text being viewed before the first/second intended area opened (i.e. being viewed at the first magnification rate).

Claim 7 recites that the second magnification rate may be determined "from a size of the character in said first intended pre-enlarged area as displayed on the screen, and a specified character size". In other words, the magnification rate may be adjusted according to the un-

enlarged or base character size of the new window ("first/second intended area"), and a specified character size.

Claims 9 and 14 recite "detecting ... when up to an area adjacent to and surrounding said second intended area is scrolled", and "prohibiting said second intended window from being further scrolled ... where ... the trailing end of said second intended area is in a displayable state". In other words, the second intended window is being displayed in enlarged form with the second magnification rate, and there is an area adjacent to it which, absent the prohibiting means, would be scrollable into view.

The features of claims 1, 3, 4, 6, and 7 mentioned above can be implemented with an apparatus as shown in Fig. 1. It can be seen in Fig. 1 that screen magnification occurs through an enlarged display means 12 that outputs through I/O control 10 to a display unit 2. The enlarged display means 12 receives its magnification rate from the determining means 13. The detection means 13 detects a new window opening and notifies the specifying means 14, which in turn causes the determining means 15 to generate a magnification rate.

The operation of the apparatus of Fig. 1, with respect to claim 3 (determining based on screen size), may be explained with reference to Fig. 4. Figure 4 shows that the enlarged display means 12 is displaying in enlarged form ST3. When a new window is displayed/opened ST5 (as detected by detection means 13), the determining means 15 calculates/acquires ST6 would-be window corner coordinates (a proxy for size), and compares them ST7 with the screen size. That comparison affects how the magnification rate is changed (ST10/ST11). Following the arrows from ST10, ST11, and ST12, after the magnification rate is determined, the enlarged display is again performed with the newly determined magnification rate. Figure 6 shows steps of a similar operation based on character size (claims 4, 6, 7, etc.)

The claims recite first and second intended areas. "Intended" area can mean "focus" area, or the window/area to which input is currently directed, as is often the case with newly opening windows. The first intended area is generally the newly opened window according to the first (original) magnification rate. The second intended area may be thought of as the ultimately displayed version of the first intended area ("enlarged display means for displaying said first intended area ... in an enlarged form within said second intended area in accordance with said second magnification rate", claim 1). The first and second intended areas are the same window at different enlargements ("enlarges said first intended area to said second intended area", claim 1). Because the second intended area is newly opening, the first intended area is also newly opening. When the first/second intended area newly opens, the magnification

rate for its enlarged/magnified display is generally determined as discussed above with reference to claims 1, 3, 4, 6, and 7. A drawing has been included (Appendix B) to diagram the flow of claim 1 as it relates to the first/second intended area, which contains example character "X".

The scrolling problem may be solved as recited in claim 9. Figures 16A through 16E illustrate the problem. Figures 16A through 16E show in order the progressive scrolling/panning to the right of an enlarged window. Figs. 16D and 16E show that an adjacent area to the right of the enlarged window is being scrolled into view. However, the user is only interested in viewing the new window itself. With the scroll detecting and prohibiting means of claim 9, it can be seen in Figs. 9A to 9C that further scrolling to the right is prohibited when the edge of the window is displayed.

A solution to the screen-restoration problem, as recited in claim 10, may be understood with reference to Figs. 11A to 11C. Figure 11A shows an original enlarged view whose position ("coordinate") is stored by the memory means. Figure 11B shows a new window in the view, where the view has been scrolled to view the new "WINDOW". After the new "WINDOW" is closed, Fig. 11C shows the original view that has been restored to the coordinate by the restoration means.

VI. ISSUES (37 CFR § 1.192(C)(6))

I. A first issue is whether claims 1 and 11 distinguish over U.S. Patent No. 5,634,064 to Warnock combined with U.S. Patent No. 5,943,679 to Niles. A key subissue is whether the Warnock and Niles teach determining a second magnification rate based on a pre-enlarged area/window size and a window/area enlargement based on a first magnification rate.

II. A second issue is whether claim 3 distinguishes over Warnock combined with Niles. A key subissue is whether Warnock and Niles teach determining a second magnification rate based on a screen size.

III. A third issue is whether claims 4 and 12 distinguish over Warnock combined with Niles. A key subissue is whether Warnock and Niles teach determining a second magnification rate based on a character size in an area surrounding the enlarging window.

IV. A fourth issue is whether claim 6 distinguishes over Warnock combined with Niles. A key subissue is whether Warnock and Niles teach determining a second magnification

such that the character size in an area surrounding the enlarging window is equal to the character size in the second intended area.

V. A fifth issue is whether claims 7 and 13 distinguishes over Warnock combined with Niles. A key subissue is whether Warnock and Niles teach determining a second magnification rate based on a specified character size.

VI. A sixth issue is whether claims 9 and 14 distinguish over Warnock combined with Niles. A key subissue is whether Warnock and Niles teach prohibiting scrolling to an area adjacent to and surrounding a magnified window.

VII. A seventh issue is whether claims 10 and 15-26 distinguish over Warnock combined with Niles. A key subissue is whether the Warnock and Niles teach, in a magnified mode, storing a pre-new-window screen position and restoring the position when the new window closes.

VIII. An eighth issue is whether claims 27-32 distinguish over Morgan. A key subissue is whether Morgan teaches resizing and rescaling based on a magnification ratio and screen size.

IX. A ninth issue is whether claims 35 and 36 were properly rejected, and whether claims 35 and 36 distinguish over Warnock and Niles. A key subissue is whether Warnock combined with Niles teaches detecting an externally opened window.

X. A tenth issue is whether claims 5 and 8 were properly rejected under 35 USC § 112.

VII. GROUPING OF CLAIMS (37 CFR § 1.192(C)(7))

- A: 1, 11 (determining magnification rate from size)
- B: 3 (determining from size of display screen)
- C: 4, 12 (determining from character in surrounding area)
- D: 6 (determining to keep character size)
- E: 7, 13 (determining from specified character size)
- F: 9, 14 (scroll prohibition)

- G: 10, and 15-26 (view capture and restore)
- H: 27-34
- I: 35, 36
- J: 5,8 (§ 112)

VIII. ARGUMENT (37 CFR § 1.192(C)(8))

The References

Niles

Niles discusses a method for simultaneously viewing varying multiple pages of a document. Each page is displayed in its own window and the size and scale of a page is incrementally proportional to its distance in page numbers from the focus page. A subregion of the focus page may be selected and displayed in a pop-up magnifier window. The pop-up magnifier window only displays data scrolled into the selection subregion of the focus page. The magnification ratio of the pop-up magnifier is set manually.

Warnock

Warnock discusses navigating a sequence of regions (articles) within a document view, and automatically zooming an article in an article view when the article is selected. Warnock discusses setting the magnification of the article to a maximum rate and adjusting the magnification rate downward if the width of the zoomed article in the article view exceeds the width of the window. Warnock inhibits scrolling because the enlarged view does not contain a displayable area other than the data contained in the article. Warnock also specifies restoring the original document view after closing the zoomed article view.

Warnock and Niles

The Examiner's rejection is unclear as to what portions of the claims Warnock does not teach. Throughout the Office Action, the Examiner follows claim quotes with "...". It is not clear whether or not the omitted part of the claims corresponding to the "..." is alleged to be taught by Warnock. Applicant's understanding of the relevancy of Warnock is based on the Examiner's remarks summarizing the combining of the two references: "It would have been obvious ... to have combined the display of images by Warnock " with the:

- (1) "magnification a [sic] second window to display data in a first intended window p(i)

of Niles" (p. 6, lines 6-8, and at bottom of p. 6).

(2) "magnification of a second window (magnifier 59 or focus image) to display data in a first intended window p(i) of Niles" (p. 7, lines 9-11).

(3) "magnification of a second window to display data in a first intended window p(i) of Niles" (p. 8, lines 1-3)

From these Examiner remarks, the focus window p(i) of Niles is alleged to correspond to the first intended area of the claims, and the pop-up window (magnifier 59) is alleged to correspond to the second intended window/area of the claims. Warnock is relied on by the Examiner only for the automatic zooming of images in the article view when the article view is entered.

Morgan

Morgan discusses a system for dragging a font from a font palette to set a font size for a component of a window. The geometry of the window is rescaled to match the new font size, and the new font size is propagated to other windows, such as parent and sibling windows.

Group A: Claims 1 and 11

Claim 1 recites "determining a second magnification rate for said second intended area that enlarges said first intended area to said second intended area from a size of a first intended pre-enlarged area as displayed on the screen, and a size assigned to a second intended after-enlarged area to be enlarged on the screen". In other words the enlargement of the newly opened intended area, according to the adjusted or second magnification rate, takes into account both its pre-enlarged size and its size according to a first magnification rate, which is not taught by the prior art. The Examiner acknowledged that this feature is not taught by Warnock (page 7, first paragraph of the July 30, 2001 Office Action). The Examiner alleged that this feature is found in the pop-up magnified view of the focus window p(i) in Niles. However, in Niles, the magnification rate at which the pop-up window is displayed is determined by the user, which is not based on a first magnification rate (col. 12, lines 62-67). Furthermore, there do not appear to be a first and second magnification rates, but rather only a single magnification rate (resolution) that is "selected by the user, such as twice the resolution of the focus page p(i)" (col. 12, lines 62-67).

Further regarding the determining feature of claim 1, in the first paragraph on page 7 of

the Office Action, the Examiner noted that Warnock discloses "the displaying step causes the selected portion of the article to be automatically sized within the article view area to enhance its readability. This is often referred to as 'zoom...' (col. 3, lines 17-20)". The Examiner is referring to Warnock's step 108, which is discussed at col. 8, lines 55-60. Step 108 of Warnock is described subjectively as automatically adjusting the zoom for readability. Warnock's only mention of *how* readability is automatically accomplished is found at col. 20, lines 18-30. This portion of Warnock states that *after* the article is selected, the article mode is entered, and the zoom (magnification rate) is calculated by setting the current article view zoom to a maximum zoom and reducing it as necessary to fit the article into the article view window. This determination of zoom or magnification rate does not involve or relate to the zoom level of the first view (the document view from which the article was selected for article-mode viewing). In other words, the zoom level of the document view preceding the new article view is independent of the zoom level of the article view. Referring to the included illustration, Warnock does not discuss using A and B to determine a magnification rate.

Furthermore, although Warnock's determination of the zoom level is based on article width (or size of the area), it is based on the article width "*at the maximum zoom level*", which differs from claim 1, which recites determining magnification from "*a size of a first intended pre-enlarged area*".

Claim 11 recites features of claim 1 in the form of a storage medium. Therefore, claims 11 and 1 patentably distinguish over Niles combined with Warnock.

Group B: Claim 3

Claim 3 recites determining the second magnification rate "from a size of said first intended area as displayed on the screen and from a size of the whole display screen". The Examiner did not address this feature, and rejected the claim with reference to a limitation not recited in the claim ("*correcting said magnification rate downward*", top of p. 9 of the Office Action). Claim 3 has in effect been rejected without explanation, and therefore the rejection does not meet the requirement of 37 C.F.R. § 1.104 that an Examiner's action be clear and complete. Furthermore, the cited references, alone and in combination, do not teach or suggest using the screen size to determine the magnification rate. Therefore, claim 3 patentably distinguishes over Niles combined with Warnock.

Group C: Claims 4 and 12

Claim 4 recites determining the second magnification rate "from a size of the character in a first intended pre-enlarged area as displayed on the screen, and a size of the character in an area surrounding said first intended area on said display screen when said detection means detects that a request is issued for opening said second intended area". In other words, claim 3 recites using the character size in the pre-enlarged new window ("first intended pre-enlarged area"), and a character size at the first magnification rate. No portions of Warnock or Niles were cited as teaching this feature. Niles was alleged to teach "magnification of the text characters in an area from the size of the characters and an area its surrounding area on a window by switching 'the focus page' or 'magnifier 59' to another page". The Examiner has confused the process of determining a second magnification rate with the process of actual magnification. Niles or Warnock may enlarge a character, but the enlargement is nowhere discussed as being based on ("from") any character size, either in a surrounding area or in a first intended pre-enlarged area.

Claim 12 recites features of claim 4 in the form of a storage medium. Therefore, claims 4 and 12 patentably distinguish over Niles combined with Warnock.

Group D: Claim 6

Claim 6 recites determining "said second magnification rate in such a manner that the size of the character displayed in said second intended area in an enlarged form in which the characters having been in an area surrounding said first intended area is equal to the size of the character displayed in the second intended area in an enlarged form in which the characters having been in said first intended area according to said second magnification rate". Because the intended area is newly opened, the area surrounding the first intended area is inherently the area that was being viewed/displayed before the intended area opened. Thus, the magnification rate is adjusted to cause the new window to reflect the size of the previously viewed characters, bringing about continuity in viewed character size. The prior art does not teach or suggest the general concept of modifying the magnification rate. Nor does the prior art teach or suggest the more particular concept in claim 6 of maintaining an equal character size when opening a new window.

Furthermore, the Examiner alleged that this feature of claim 6 is taught by the case of Warnock having two windows in the "normal" view mode, where the windows would have the same character size. However, the case the Examiner suggests directly contradicts the feature

of claim 6 (via parent claim 4) which requires the first intended area to be displayed within the second intended area (i.e. enlarging the first to the second).

Therefore, claim 6 patentably distinguishes over Niles combined with Warnock.

Group E: Claims 7 and 13

Claim 7 recites determining the second magnification rate from "a specified character size". The Random House Dictionary of English Language (2d ed.) defines "specify" to mean "to mention or name specifically or definitely; state in detail; *He did not specify the amount needed.*" The Examiner did not address this feature of claim 7, but rather addressed "magnification of the text characters in an area from the size of the characters and an area and its surrounding area on a window by ...". This addressed feature is not in claim 7. In effect, claim 7 has been rejected without explanation or reference to the claim itself. Furthermore, determining based on a *specified character size* is not taught or suggested by the prior art.

Claim 13 recites this feature of claim 7 in the form of a storage medium. Therefore, claims 7 and 13 patentably distinguish over Niles combined with Warnock.

Group F: Claims 9 and 14

Claim 9 recites "detecting whether the trailing end of said second intended area scrolled in said scrolling direction ... has reached a state displayable on said display screen when up to *an area adjacent to and surrounding said second intended area is scrolled*", and "prohibiting said second intended window from being further scrolled" when so detected. The Examiner alleged that Warnock's page scrolling corresponds to claim 9's scrolling prohibition. The cited page scrolling of Warnock (col. 9, lines 46-55) involves automatically jumping the pointer to the top of the window when a new page is scrolled into view. However, claim 9 recites an area adjacent to and surrounding the window being prohibited from being viewed. Inapposite, when Warnock reaches the adjacent area (next page), it explicitly displays it. The prior art references, alone and in combination, do not teach or suggest prohibiting scrolling an adjacent/surrounding area into view.

Claim 14 recites features of claim 9 in the form of a storage medium. Therefore, claims 9 and 14 patentably distinguish over Niles combined with Warnock.

Group G: Claims 10 and 15-26

Claim 10 recites "storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area", and "restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area". In other words, claim 10 recites storing a pre-new-window screen position and restoring the position when the new window closes. Warnock discusses storing the document view before entering the article view, and then restoring the document view when the article view is exited. However, the two views of Warnock are not the same view, one within the other (compare Warnock's Fig. 3d to Fig. 3e).

Claims 15-26, similar to claim 10, recite storing, opening, and restoring after closing. Therefore, claims 10, and 15-26 patentably distinguish over Niles combined with Warnock.

Group H: Claims 27-35

Claim 27 recites "transforming ... an original view ... responsive to a magnification ratio", "capturing an original character size", and "rescaling, resizing, and displaying the window responsive to a user preference, the character size, the magnification ratio, and a display size". The Examiner did not address the magnification ratio feature, and Morgan does not teach or suggest it. The Examiner did not address using the magnification ratio and display size to rescale, resize, and display the window, and Morgan does not teach or suggest it. Therefore, claims 27-35 patentably distinguish over Morgan.

Group I: Claims 35 and 36

Claims 35 and 36 were rejected as anticipated by Morgan. Claims 35 and 36 depend from claim 1. Furthermore, claim 1 is not directed towards a method, or for resizing in response to a character size change, as alleged by the Examiner. The rejection of claims 35 and 36 is unclear. They are rejected as anticipated by Morgan, but are compared to claim 1, which is rejected as obvious over Niles and Warnock. Claim 36 recites that the "opening originates externally". The present invention, as shown, for example, in Fig. 2, can receive its input from the Operating System ("OS"). In other words, the present invention may serve as a layer between the OS and the display unit. Thus, it can handle windows that are opened externally, as for example windows opened by the "Application Program" shown in Fig. 2. Warnock and

Niles deal exclusively with internally opened windows.

Group J: Claims 5 and 8

Claims 5 and 8 recite phrases such as "correcting said second magnification rate upward in the case where the size of the character displayed in said second intended area in an enlarged form in which the size of characters having been in an area surrounding said first intended area is larger than the size of the character displayed in the second intended area in an enlarged form in which the characters having been in said first intended area according to said second magnification rate". A character is not being compared to itself, but rather is being compared to "characters having been in an area surrounding said first intended area". In other words, there are two different characters involved; the characters in an area surrounding the first area, and the character in the second area". Therefore, claims 5 and 8 particularly point out and distinctly claim the present invention.

Conclusion

As can be seen from the arguments above, the pending claims recite features that patentably distinguish from the prior art. The pending claims also meet the requirements of 35 U.S.C. § 112, second paragraph. Reversal of the rejections is respectfully requested.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 20 FEB 2002

By: James T. Strom
James T. Strom
Registration No. 48,702

700 11th Street, N.W., Ste. 500
Washington, D.C. 20001
(202) 434-1500

APPENDIX A (37 CFR § 1.192(a)(9))

1. An information processing apparatus for displaying at least a character or an image in a first intended area, defined by a first magnification rate, in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, comprising:

 detection means for detecting whether a request for opening said second intended area is issued;

 determining means for determining a second magnification rate for said second intended area that enlarges said first intended area to said second intended area from a size of a first intended pre-enlarged area as displayed on the screen, and a size assigned to a second intended after-enlarged area to be enlarged on the screen, when said detection means detects that a request is issued for opening said second intended area; and

 enlarged display means for displaying said first intended area with said characters or said images in the area on the display screen in an enlarged form within said second intended area in accordance with said second magnification rate determined by said determining means.

2. An information processing apparatus according to claim 1, wherein said determining means includes:

 means for correcting said second magnification rate upward in proportion to the difference between sizes of said first and second intended areas in the case where a size of said second intended area as displayed on the screen is larger than a size of said first intended area;

 means for maintaining said second magnification rate as it is in the case where the size of said second intended area as displayed on the screen is equal to the size of said first intended area; and

 means for correcting said second magnification rate downward in proportion to the difference between the sizes of said first and second intended areas in the case where the size of said second intended area as displayed on an enlarged screen is smaller than the size of said first intended area.

3. An information processing apparatus according to claim 1, wherein:

 said determining means calculates said second magnification rate from a size of said first intended area as displayed on the screen and from a size of the whole display screen.

4. An information processing apparatus for displaying at least a character or an

image in a first intended area, defined by a first magnification rate, in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, comprising:

 detection means for detecting whether a request for opening said second intended area is issued;

 determining means for determining a second magnification rate for said second intended area that enlarges said first intended area to said second intended area from a size of the character in a first intended pre-enlarged area as displayed on the screen, and a size of the character in an area surrounding said first intended area on said display screen when said detection means detects that a request is issued for opening said second intended area; and

 enlarged display means for displaying said first intended area with said characters or said images in said first intended area on the display screen in an enlarged form within said second intended area in accordance with said second magnification rate determined by said determining means.

5. An information processing apparatus according to claim 4, wherein said determining means includes:

 means for correcting said second magnification rate upward in the case where the size of the character displayed in said second intended area in an enlarged form in which the size of characters having been in an area surrounding said first intended area is larger than the size of the character displayed in the second intended area in an enlarged form in which the characters having been in said first intended area according to said second magnification rate;

 means for maintaining said second magnification rate in the case where the size of the character displayed in said second intended area in the enlarged form in which the size of characters having been in an area surrounding said first intended area is equal to the size of the character displayed in the second intended area in the enlarged form in which the characters having been in said first intended area according to said second magnification rate; and

 means for correcting said second magnification rate downward in the case where the size of the character displayed in said second intended area in the enlarged form in which the size of characters having been in an area surrounding said first intended area is smaller than the size of the character displayed in the second intended area in the enlarged form in which the characters having been in said first intended area according to said second magnification rate.

6. An information processing apparatus according to claim 4, wherein:

said determining means calculates said second magnification rate in such a manner that the size of the character displayed in said second intended area in an enlarged form in which the characters having been in an area surrounding said first intended area is equal to the size of the character displayed in the second intended area in an enlarged form in which the characters having been in said first intended area according to said second magnification rate.

7. An information processing apparatus for displaying at least a character or an image in a first intended area, defined by a first magnification rate, in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, comprising:

detection means for detecting whether a request for opening said second intended area is issued;

determining means for determining a second magnification rate of said second intended area as displayed on the screen that enlarges said first intended area to said second intended area from a size of the character in said first intended pre-enlarged area as displayed on the screen, and a specified character size when said detection means detects that a request is issued for opening said second intended area; and

enlarged display means for displaying said first intended area with said characters or said images in said first intended area on the display screen in an enlarged form within said second intended area in accordance with said second magnification rate determined by said determining means.

8. An information processing apparatus according to claim 7, wherein said determining means includes:

means for correcting said second magnification rate upward in the case where the size of the character displayed in said second intended area in an enlarged form in which the size of characters having been in an area surrounding said first intended area is larger than the size of the character displayed in the second intended area in an enlarged form in which the size of characters having been in said first intended area according to said second magnification rate;

means for maintaining said second magnification rate in the case where the size of the character displayed in the enlarged form in which the size of characters having been in an area surrounding said first intended area is equal to the size of the character displayed in the second intended area in the enlarged form in which the characters having been in said first intended area according to said second magnification rate; and

means for correcting said second magnification rate downward in the case where the size of the character displayed in said second intended area in the enlarged form in which the size of characters having been in an area surrounding said first intended area is smaller than the size of the character displayed in the second intended area in the enlarged form in which the characters having been in said first intended area according to said second magnification rate.

9. An information processing apparatus for displaying at least a character or an image in a first intended area, defined by a first magnification rate, in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, comprising:

scrolling means for scrolling said second intended area displayed in an enlarged form in a designated scrolling direction in response to a scroll request;

detection means for detecting whether the trailing end of said second intended area scrolled in said scrolling direction in accordance with the scrolling process by said scrolling means has reached a state displayable on said display screen when up to an area adjacent to and surrounding said second intended area is scrolled; and

prohibition means for prohibiting said second intended window from being further scrolled in said scrolling direction by said scrolling means in the case where said detection means detects that the trailing end of said second intended area is in a displayable state.

10. An information processing apparatus according to claim 1, further comprising:

memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

11. A recording medium readable by a computer and having recorded therein a program used for realizing an information processing apparatus for displaying at least a character or an image in a first intended area defined by a first magnification rate in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, said information processing apparatus comprising:

detection means for detecting whether a request for opening said second intended area is issued;

determining means for determining a second magnification rate for said second intended area that enlarges said first intended area to said second intended area from a size of a first intended pre-enlarged area as displayed on the screen, and a size assigned to a second intended after-enlarged area to be displayed on the screen when said detection means detects that a request is issued for opening said second intended area; and

enlarged display means for displaying said first intended area with said characters or said images in the area on the display screen in an enlarged form within said second intended area in accordance with said second magnification rate determined by said determining means.

12. A recording medium readable by a computer and having recorded therein a program used for realizing an information processing apparatus for displaying at least a character or an image in a first intended area defined by a first magnification rate in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, said information processing apparatus comprising:

detection means for detecting whether a request for opening said second intended area is issued;

determining means for determining a second magnification rate of said second intended area that enlarges said first intended area to said second intended area from a size of a character in said first intended pre-enlarged area as displayed on the screen, and a size of the character in an area surrounding said first intended area on said display screen when said detection means detects that a request is issued for opening said second intended area; and

enlarged display means for displaying said first intended area with the characters or the images in said first intended area on the display screen in the enlarged form within said second intended area in accordance with said second magnification rate determined by said determining means.

13. A recording medium readable by a computer and having recorded therein a program used for realizing an information processing apparatus for displaying at least a character or an image in a first intended area defined by a first magnification rate in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, said information processing apparatus comprising:

detection means for detecting whether a request for opening said second intended area

is issued;

determining means for determining a second magnification rate of said second intended area as displayed on the screen, that enlarges said first intended area to said second intended area from a size of the character in said first intended pre-enlarged area as displayed on the screen, and a specified character size when said detection means detects that a request for opening said second intended area is issued; and

enlarged display means for displaying said first intended area with the characters or images in said first intended area on the display screen in an enlarged form within said second intended area in accordance with said second magnification rate determined by said determining means.

14. A recording medium readable by a computer and having recorded therein a program used for realizing an information processing apparatus for displaying at least a character or an image in a first intended area defined by a first magnification rate in an enlarged form at the first designated magnification rate on a screen of a display unit in a second intended area newly opened on the screen, said information processing apparatus comprising:

scrolling means for scrolling said second intended area displayed in an enlarged form in a designated scrolling direction in response to a scroll request;

detection means for detecting whether the trailing end of said second intended area scrolled in said scrolling direction in accordance with the scrolling process by said scrolling means has reached a state displayable on said display screen when up to an area adjacent to and surrounding said second intended area is scrolled; and

prohibition means for prohibiting said second intended area from being further scrolled in said scrolling direction by said scrolling means in the case where said detection means detects that the trailing end of said second intended area is in a displayable state.

15. A recording medium readable by a computer and having recorded therein a program used for realizing said information processing apparatus according to claim 11, said information processing apparatus comprising:

memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate

stored in said memory means when erasing said second intended area.

16. An information processing apparatus according to claim 2, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

17. An information processing apparatus according to claim 3, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

18. An information processing apparatus according to claim 4, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

19. An information processing apparatus according to claim 5, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

20. An information processing apparatus according to claim 6, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and
restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

21. An information processing apparatus according to claim 7, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and
restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

22. An information processing apparatus according to claim 8, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and
restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

23. An information processing apparatus according to claim 9, further comprising:
memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area and are displayed on said display screen before opening said second intended area; and
restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

24. A recording medium readable by a computer and having recorded therein a program used for realizing said information processing apparatus according to claim 12, said

information processing apparatus comprising:

memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

25. A recording medium readable by a computer and having recorded therein a program used for realizing said information processing apparatus according to claim 13, said information processing apparatus comprising:

memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

26. A recording medium readable by a computer and having recorded therein a program used for realizing said information processing apparatus according to claim 14, said information processing apparatus comprising:

memory means for storing a coordinate of at least a character or an image in said first intended area which provides a trigger of opening said second intended area displayed on said display screen before opening said second intended area; and

restoration means for restoring and displaying on said display screen a display state of said second intended area immediately before being opened on the basis of the coordinate stored in said memory means when erasing said second intended area.

27. A method, comprising:

transforming a size and a scale of an original view with an original position, responsive to a magnification ratio, into a rescaled and resized second view, where the second view may extend beyond a viewable border of a display;

selecting a region within the second view, where the region may extend beyond the viewable border of the display;

capturing an original character size of a character associated with the region; detecting an opening of a window containing the region, where the window may extend beyond the viewable border of the display; adjusting the magnification ratio responsive to a user preference; and rescaling, resizing, and displaying the window responsive to a user preference, the character size, the magnification ratio, and a display size.

28. A method as recited in claim 27, further comprising allowing the user to again initiate the selecting, capturing, detecting, adjusting, and rescaling.

29. A method as recited in claim 27, wherein the window is resized, rescaled, displayed, and repositioned where the window horizontally and vertically exactly occupies the display.

30. A method as recited in Claim 27, wherein the window is resized, rescaled, and displayed such that the size of a character within the resized, rescaled, and displayed window equals the original character size.

31. A method as recited in claim 27, wherein the magnification ratio is set to a ratio of the original character size to a user specified character size, and the window is resized, rescaled, and displayed according to the magnification ratio and the size of a character in the resized, rescaled, and displayed window equally the user specified character size.

32. A method as recited in claim 27, further comprising inhibiting scrolling of the second view, when the second view extends beyond the viewable border of the display, with only contents of the original view being scrolled into view.

33. A method as recited in claim 27, further comprising restoring the original view to the original position after leaving the resized and rescaled second view.

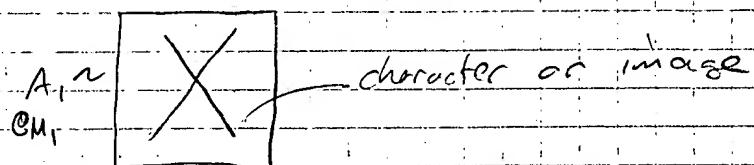
34. A method as recited in claim 28, further comprising restoring the original view to the original position when leaving the resized and rescaled second view, such second view having resulted from an iteration caused by the user again initiating the selecting, capturing, detecting, adjusting, and rescaling.

35. An apparatus as recited in claim 1, further comprising allowing the user to again initiate the detecting, determining, enlarging, and displaying.

36. An apparatus as recited in claim 1, wherein the opening originates externally.

Appendix B

I Display Area 1 (A_1) @ Magnification Rate M_1 (M_1)



II Open Second Area (A_2)

III Determine ^{second} Magnification Rate (M_2) for A_2

that enlarges A_1 to A_2

From

"size of a first intended pre-enlarged area as displayed on the screen"

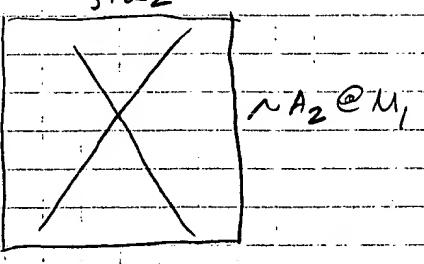
(A) $\{$ 1. A_1 as unmagnified (with magnification ratio = 1)  $nA_1 @ 1$
unmagnified

and

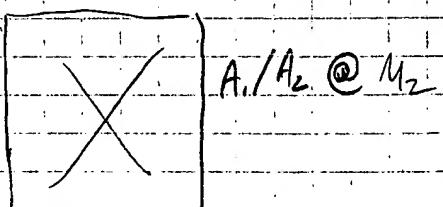
(B) "a size assigned to a second intended after-enlarged area to be enlarged on the screen"

2. from a size of $A_2 @ M_1$

(because after-enlarged, but not M_2 , which is being determined)



IV display A_1 in $A_2 @ M_2$



$A_1 / A_2 @ M_2$